

Application No. 10/580,948  
Paper Dated: January 30, 2008  
In Reply to USPTO Correspondence of October 31, 2007  
Attorney Docket No. 1217-061417

**REMARKS**

The Office Action of October 31, 2007 has been reviewed and the comments therein carefully considered. The present Amendment amends independent claim 1. No new matter has been added. Support for these amendments can be found in the specification and drawings as originally filed. Specifically, support for these amendments can be found on page 21, line 5 to page 23, line 2 and page 26, line 16 to page 27, line 21 of the specification of the present invention. Claims 5-11 were withdrawn from consideration in view of an earlier Restriction Requirement. Accordingly, claims 1-4 were examined on their merit, and claim 1 is in independent form.

**Information Disclosure Statement**

Initially, the Applicants would like to point out that the Examiner has not provided acknowledgement that he has considered the reference (JP 05-315339) submitted with the Information Disclosure Statement (IDS) filed August 20, 2007 by providing his initials next to the reference on the Form PTO/SB/08a. Accordingly, enclosed herewith is a clean copy of the Form PTO/SB/08a filed with the IDS of August 20, 2007. The Applicants respectfully request that the Examiner initial the Form PTO/SB/08a indicating that JP 05-315339 has been considered.

**35 U.S.C. §112 Rejections**

Claims 1-4 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. Specifically, the Examiner contends that the phrase "the base metal layer is treated with a treating liquid capable of dissolving and/or passivating the metal that forms the base metal layer" in independent claim 1 is unclear, vague and indefinite because the metes and bounds of the claim cannot be determined. The Applicants believe that the above amendments to claims 1-4 overcome the Examiner's indefiniteness rejections. Reconsideration and withdrawal of this rejection are respectfully requested.

Application No. 10/580,948  
Paper Dated: January 30, 2008  
In Reply to USPTO Correspondence of October 31, 2007  
Attorney Docket No. 1217-061417

35 U.S.C. §103 Rejections

Claims 1-4 stand rejected under 35 U.S.C. §103(a) for obviousness based upon United States Patent No. 5,369,881 to Inaba et al. (hereinafter “the Inaba patent”). In view of the above amendments and the following remarks, the Applicants respectfully request reconsideration of this rejection.

As defined by amended independent claim 1, the present invention is directed to a process for producing a printed wiring board. The process includes a step of depositing a base metal on at least one surface of an insulating film to form a base metal layer, and depositing copper or a copper alloy on a surface of the base metal layer to form a conductive metal layer, and a step of selectively removing a metal layer of a base film, which is formed through the above step, by etching to form a wiring pattern. After the metal layer of the base film is selectively removed by etching to form a wiring pattern, microetching is carried out, and then, the base metal layer is treated with an etching solution, which is capable of dissolving metal and has a function that it can passivate metal that is remaining in trace amounts, to dissolve and remove most of a metal that forms the base metal layer exposed between the wiring patterns, and to passivate a trace amount of a residual metal which has not been dissolved by treatment with the etching solution.

The Inaba patent discloses a method of forming a wiring pattern. The method includes the following steps: First, a copper-plated laminate sheet is prepared and a metal mask layer (2) is formed on at least one of the surfaces of the insulating base material (1) by a conventional photo-fabrication process. Next, an excimer laser beam (A) is applied from the side of the metal mask layer (2) and trenches (3) for forming the circuit wiring pattern are formed by ablation and at the same time, the metal mask layer (2) which becomes unnecessary is removed by etching. Then, a film serving as a surface treatment metal layer (4), such as a titanium film, is deposited into a required thickness on the surface of the insulating base material (1) by thin film formation means. Further, an electrically conductive metal layer (5), such as copper, is deposited by electroplating. Thereafter, resist layers (9) are formed at required positions by the ordinary photo-fabrication process, and the exposed portions are then removed selectively by etching forming a circuit wiring pattern (6).

The Inaba patent does not teach or suggest the steps of microetching and treatment with an etching solution to dissolve and remove most of the metal that forms the base metal layer exposed between the wiring patterns, and to passivate a trace amount of a

Application No. 10/580,948  
Paper Dated: January 30, 2008  
In Reply to USPTO Correspondence of October 31, 2007  
Attorney Docket No. 1217-061417

residual metal which has not been dissolved as required by amended independent claim 1. By producing a printed wiring board according to the process of the present invention, migration rarely occurs in the produced printed wiring board. Additionally, a substantial difference between the insulation resistance measured after continuous application of a voltage for a long period of time, and the insulation resistance measured before application of a voltage is not observed in the produced printed wiring board. Accordingly, the printed wiring board has extremely high reliability.

As set forth in MPEP §2143.03, to establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. Where claimed limitations are simply not present in the prior art, a *prima facie* obviousness rejection is not supported. Accordingly, since the Inaba patent fails to teach or suggest the steps of microetching and treatment with an etching solution to dissolve and remove most of the metal that forms the base metal layer exposed between the wiring patterns and to passivate a trace amount of a residual metal which has not been dissolved as required by amended independent claim 1, a *prima facie* case of obviousness has not been established.

For the foregoing reasons, the Applicants believe that the subject matter of amended independent claim 1 is not rendered obvious by the Inaba patent. Reconsideration of the rejection of claim 1 is respectfully requested.

Claims 2-4 depend from and add further limitations to amended independent claim 1 and are believed to be patentable for the reasons discussed hereinabove in connection with amended independent claim 1. Reconsideration of the rejection of claims 2-4 is respectfully requested.

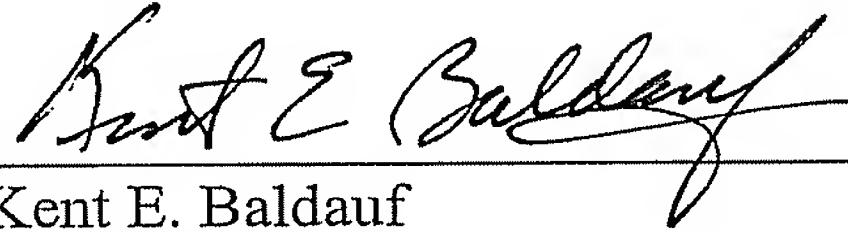
Application No. 10/580,948  
Paper Dated: January 30, 2008  
In Reply to USPTO Correspondence of October 31, 2007  
Attorney Docket No. 1217-061417

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of claims 1-4 are respectfully requested.

Respectfully submitted,

THE WEBB LAW FIRM

By \_\_\_\_\_



Kent E. Baldauf  
Registration No. 25,826  
Attorney for Applicants  
436 Seventh Avenue  
700 Koppers Building  
Pittsburgh, PA 15219  
Telephone: (412) 471-8815  
Facsimile: (412) 471-4094  
E-mail: webblaw@webblaw.com